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MEMORANDUM

DATE: June 8, 2015

TO: Eric Nuchims, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-4 Chemist, E & E, Seattle, Washington

SUBJ: **Organic Data Quality Assurance Review, John Day Vapor Response Site, John Day, Oregon**

REF: TDD: 15-05-0005 PAN: 1004530.0004.111.02

The data quality assurance review of 4 water samples collected from the John Day Vapor Response site in John Day, Oregon, has been completed. Volatile Organic Compound (VOC) analysis (EPA Method 8260) was performed by TestAmerica, Inc., Tacoma, Washington. All sample analyses were evaluated following EPA's Stage 2B and/or 4 Data Validation Electronic and/or Manual Process (S2B/4VE/M).

The samples were numbered:

15053101 15053102 15053103 15053104

Data Qualifications:

1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of < 6°C. The samples were collected on May 28 or 29, 2015, and were analyzed on June 1, 2015, therefore meeting QC criteria of less than 7 days between collection and analysis for unpreserved water samples.

2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

3. **Initial Calibration: Acceptable.**

All average Relative Response Factors (RRFs) were within the QC limits. All Relative Standard Deviations (RSDs) were within the QC limits.

4. **Continuing Calibration: Satisfactory.**

All RRFs were within the QC limits. All % differences were within the QC limits except 1,2,3-trichloropropane, and 1,2,4-trichlorobenzene with decreasing response factors. Positive results and sample quantitation limits for the low recovery outliers were qualified as estimated quantities (JL or UJL).

5. **Blanks: Acceptable.**

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A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

6. System Monitoring Compounds (SMCs): Satisfactory.

All SMC recoveries were within QC limits except dibromofluoromethane and 1,2-dichloroethane with low recoveries in sample 15053103; associated positive results and sample quantitation limits were qualified as estimated quantities with a low bias (JL or UJL).

7. Blank Spike (BS)/Blank Spike Duplicate (BSD) Analysis: Satisfactory.

BS and BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except high recoveries for 2,2-dichloropropane, ethylbenzene, 1,1,1,2-tetrachloroethane, o-xylene, and isopropylbenzene; associated positive results were qualified as estimated quantities with a high bias (JH).

8. Duplicate Analysis: Acceptable.

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

9. Internal Standards: Acceptable.

All internal standards were within $\pm$ 30 seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

10. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

11. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.

JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.

JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.

JQ – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).

N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053101

Lab Sample ID: 580-50288-1
Client Matrix: Water

Date Sampled: 05/28/2015 1403
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358881.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1901			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1901				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0

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Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053101

Lab Sample ID: 580-50288-1
Client Matrix: Water

Date Sampled: 05/28/2015 1403
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358881.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1901			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1901				

Analyte	Result (ug/L)	Qualifier	MDL	RL
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	114		85 - 120
4-Bromofluorobenzene (Surr)	89		75 - 120
Dibromofluoromethane (Surr)	100		85 - 115
Trifluorotoluene (Surr)	109		70 - 136
1,2-Dichloroethane-d4 (Surr)	76		70 - 120

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053102

Lab Sample ID: 580-50288-2
Client Matrix: Water

Date Sampled: 05/28/2015 1610
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358878.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1736			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1736				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	0.24	J	0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053102

Lab Sample ID: 580-50288-2
Client Matrix: Water

Date Sampled: 05/28/2015 1610
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358878.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1736			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1736				

Analyte	Result (ug/L)	Qualifier	MDL	RL
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	114		85 - 120
4-Bromofluorobenzene (Surr)	91		75 - 120
Dibromofluoromethane (Surr)	96		85 - 115
Trifluorotoluene (Surr)	107		70 - 136
1,2-Dichloroethane-d4 (Surr)	70		70 - 120

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: **15053103**

Lab Sample ID: 580-50288-3
Client Matrix: Water

Date Sampled: 05/29/2015 0940
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 06/01/2015 1640
Prep Date: 06/01/2015 1640

Analysis Batch: 580-190828
Prep Batch: N/A

Instrument ID: TAC036
Lab File ID: hp358876.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0 UJL
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND		0.42	2.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	0.35	J	0.24	1.0
Styrene	ND		0.62	5.0 UJL
Bromoform	ND		0.21	1.0 UJL
Isopropylbenzene	47 JK		0.30	2.0
Bromobenzene	ND		0.42	2.0 UJL
N-Propylbenzene	100 JL		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0 UJL
2-Chlorotoluene	ND		0.52	3.0 UJL
4-Chlorotoluene	ND		0.46	2.0 UJL
t-Butylbenzene	0.62	J	0.53	3.0
sec-Butylbenzene	17 JL		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0 UJL
4-Isopropyltoluene	12 JL		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0 UJL
n-Butylbenzene	45 JL		0.63	3.0

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: **15053103**

Lab Sample ID: 580-50288-3
Client Matrix: Water

Date Sampled: 05/29/2015 0940
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358876.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1640			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1640				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2-Dichlorobenzene	ND		0.35	2.0 UJL
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND	MW	0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0 JL
Hexachlorobutadiene	ND		0.49	2.0 JL
Naphthalene	44 JL		0.26	2.0
Methyl tert-butyl ether	140 JL		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	116		85 - 120
4-Bromofluorobenzene (Surr)	93		75 - 120
Dibromofluoromethane (Surr)	82	X	85 - 115
Trifluorotoluene (Surr)	103		70 - 136
1,2-Dichloroethane-d4 (Surr)	62	X	70 - 120

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: **15053103**

Lab Sample ID: 580-50288-3
Client Matrix: Water

Date Sampled: 05/29/2015 0940
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358879.D
Dilution:	100			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1804	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1804				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	580		42	200
Toluene	1400		44	200
Ethylbenzene	410 JH		51	300
m-Xylene & p-Xylene	1600		13	300
o-Xylene	640 JH		49	200
1,3,5-Trimethylbenzene	140	J Q	50	300
1,2,4-Trimethylbenzene	700		50	300

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	110		85 - 120
4-Bromofluorobenzene (Surr)	89		75 - 120
Dibromofluoromethane (Surr)	95		85 - 115
Trifluorotoluene (Surr)	109		70 - 136
1,2-Dichloroethane-d4 (Surr)	72		70 - 120

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053104

Lab Sample ID: 580-50288-4
Client Matrix: Water

Date Sampled: 05/29/2015 0900
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358880.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1832			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1832				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	0.20	J	0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0

Client: Ecology and Environment, Inc.

Job Number: 580-50288-1

Client Sample ID: 15053104

Lab Sample ID: 580-50288-4
Client Matrix: Water

Date Sampled: 05/29/2015 0900
Date Received: 05/29/2015 1715

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-190828	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358880.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/01/2015 1832			Final Weight/Volume:	5 mL
Prep Date:	06/01/2015 1832				

Analyte	Result (ug/L)	Qualifier	MDL	RL
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0

JL

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	102		85 - 120
4-Bromofluorobenzene (Surr)	90		75 - 120
Dibromofluoromethane (Surr)	97		85 - 115
Trifluorotoluene (Surr)	105		70 - 136
1,2-Dichloroethane-d4 (Surr)	76		70 - 120